

What is claimed is:

1. A device manually used to apply tape along a surface to be protected with an edge of the tape extending along a juncture between the surface to be protected and a surface to be treated disposed at about a right angle with respect to the surface to be protected, tape being applied by said device from a roll of tape comprising a core having an axis, a cylindrical periphery around said axis, and a length of tape comprising a backing having opposite major surfaces extending between opposite elongate edges and a layer of pressure sensitive adhesive along one of said major surfaces, said length of tape being wound around said periphery with said edges aligned to form side surfaces for the roll of tape, said device including:

a housing adapted to receive the roll of tape, said housing having a guide surface adapted to be slid along the surface to be protected and comprising at least one housing portion having a tape contact part of an inner surface for the housing portion in a first plane, and having in a second plane a guide part of an outer surface for the housing portion adapted to be slid along the surface to be treated and disposed at about a right angle with respect to said guide surface, said first and second planes on said housing portion being disposed relative to each other in a range between being parallel to each other and being disposed at a small angle with respect to each other with said first and second planes intersecting adjacent the intersection of said second plane and a plane along said guide surface;

a pressure application structure having an end portion, said end portion having an arcuate peripheral surface around an axis, and an outer edge;

means mounting the pressure application structure on the housing for a limited predetermined amount of pivotal movement away from a position with the axes of the arcuate peripheral surface at a right angle with respect to the first plane on the housing portion, said pivotal movement moving the end portion of the pressure application structure toward a top side of the housing portion opposite the guide surface, said pivotal movement being about a pivot axis spaced from the end portion, transverse to the axis of the peripheral surface, and in a plane at about a right angle with respect to a plane along the guide surface and said peripheral surface, the arcuate peripheral surface on the end portion of the pressure application structure being disposed at an angle of no greater than

90 degrees with respect to the second plane and projecting from the housing when the pressure application structure is pivoted to said maximum angle to move the end portion of the pressure application structure toward a top side of the housing portion opposite the guide surface;

5 means for journaling the roll of tape on the housing with said tape contact part of the inner surface for the housing portion along one of the side surfaces of the roll of tape; and

means for defining a path for the length of tape from the periphery of the roll of tape to the periphery of said pressure application structure at said predetermined location with the adhesive on the tape on the side of the backing opposite the pressure application structure so that the dispenser can be manually positioned with the portion of the housing against the surface to be treated and the guide surface along the surface to be protected, and the dispenser can be moved along the surfaces to be treated and protected to accurately apply and press the tape from the roll of tape on the surface to be protected with the peripheral surface of the pressure application structure and with the edge of the tape at a predetermined relationship with respect to the juncture between the surface to be protected and the surface to be treated.

2. A device according to claim 1 wherein pivotal movement of said pressure application structure about said pivot axis is limited to a maximum angle in the range of 1/2 to 4 degrees away from a position with the axis of said arcuate peripheral surface parallel to said plane along said guide surface and said arcuate surface.

3. A device according to claim 2 wherein said first and second planes on said housing portion are at an angle of less than 4 degrees with respect to each other, and the arcuate peripheral surface of the pressure application structure is disposed at an angle in the range of about 80 to 90 degrees with respect to the second plane when the pressure application structure is pivoted to said maximum angle to move said pressure application structure toward the top side of said housing portion.

4. A device according to claim 1 wherein pivotal movement of said pressure application structure about said pivot axis is limited to an angle of about 2 degrees away from a position with the axis of said arcuate peripheral surface parallel to said plane along said guide surface and said arcuate surface.

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5. A device according to claim 4 wherein said first and second planes on said housing portion are at an angle of about 2 degrees with respect to each other, and the arcuate peripheral surface of the pressure application structure is generally cylindrical and is disposed at an angle of about 89.5 degrees with respect to the second plane when the pressure application structure is pivoted to said maximum angle to move said pressure application structure toward the top side of said housing portion.

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6. A device according to claim 1 wherein said pressure application structure has an end surface projecting in the range of about 0.005 to 0.020 inch or 0.01 to 0.05 centimeter beyond the intersection of said first and second planes when the pressure application structure is pivoted to said maximum angle to move said pressure application structure toward the top side of said housing portion.

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7. A device according to claim 1 wherein said pressure application structure comprises a roller having a peripheral surface that is generally cylindrical about said axis providing at least a portion of said cylindrically arcuate peripheral surface, said outer edge is at one end of said peripheral surface, said pressure roller is mounted on the housing for rotation about said axis with a part of the outer edge of the pressure roller at the intersection of said first and second planes, and the generally cylindrical peripheral surface of the pressure roller is disposed at an angle of no greater than 90 degrees with respect to the second plane when the pressure application structure is pivoted to said maximum angle to move said pressure application structure toward the top side of said housing portion.

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8. A device according to claim 1 wherein said means for journaling the roll of tape on the housing with said tape contact part of the inner surface for the housing portion along one of the side surfaces of the roll of tape journals the tape for free rotation and free axial movement relative to the housing.

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9. A device according to claim 1 wherein said means for journaling the roll of tape on the housing with said tape contact part of the inner surface for the housing portion along one of the side surfaces of the roll of tape journals the tape for free rotation while
5 restricting axial movement of the roll of tape relative to the housing and allowing manual axial movement of the roll of tape relative to the housing.

10. A device that can be manually used to apply tape along a surface to be protected with an edge of the tape extending along a juncture between the surface to be protected and a surface to be treated disposed at about a right angle with respect to the
10 surface to be protected, said device dispensing the tape from a roll of tape comprising a core having an axis, a cylindrical periphery around said axis, and a length of tape comprising a backing having opposite major surfaces extending between opposite elongate edges and a layer of pressure sensitive adhesive along one of said major surfaces, said
15 length of tape being wound around said periphery with said edges aligned to form side surfaces for the roll of tape;

said device comprising:

a housing adapted to receive the roll of tape, said housing having a guide surface adapted to be slid along the surface to be protected and comprising two housing portions,
20 each of said housing portions having a tape contact part of an inner surface for the housing portion in a first plane, and having in a second plane a guide part of an outer surface for the housing portion adapted to be slid along the surface to be treated, said first and second planes on each of said housing portions being disposed relative to each other in a range between being parallel to each other and being disposed at a small angle with respect to
25 each other with said first and second planes intersecting adjacent the intersection of said second plane and a plane along said guide surface;

a pressure application structure having opposite end portions, each of said end portions having an arcuate peripheral surface around an axis, and an outer edge, said pressure application structure being mounted on the housing for a limited predetermined
30 amount of pivotal movement in either direction away from a position with the axes of the arcuate peripheral surfaces at a right angle with respect to the first planes on the housing portions, said pivotal movement being about a pivot axis midway between the end

portions, transverse to the axis of the peripheral surfaces, and in a plane at about a right angle with respect to a plane along the guide surface, said arcuate peripheral surface on each end portion of the pressure application structure being disposed at an angle of no greater than 90 degrees with respect to the adjacent second plane and projecting from the housing when the pressure application structure is pivoted to its that maximum angle to move said each end portion of the pressure application structure toward a top side of the housing portion opposite the guide surface.

means for attaching said portions of the housing together;

means for journaling the roll of tape between the portions of the housing with said tape contact part of the inner surface for each housing portion along a different one of the side surfaces of the roll of tape; and

means for defining a path for the length of tape from the periphery of the roll of tape to the periphery of said pressure application structure with the adhesive on the tape on the side of the backing opposite the pressure application structure so that the dispenser can be manually positioned with either portion of the housing against the surface to be treated and moved along the surfaces to be treated and protected to accurately apply and press the tape from the roll of tape on the surface to be protected with the peripheral surfaces of the pressure application structure and with the edge of the tape at a predetermined relationship with respect to the juncture between the surface to be protected and the surface to be treated.

11. A device according to claim 10 wherein pivotal movement of said pressure application structure about said pivot axis is limited to a maximum angle in the range of 1/2 to 4 degrees away from a position with the axis of said arcuate peripheral surface parallel to said plane along said guide surface and said arcuate surfaces.

12. A device according to claim 11 wherein said first and second planes on each of said housing portions are at an angle of less than 4 degrees with respect to each other, and the arcuate peripheral surfaces of the pressure application structure are each disposed at an angle in the range of about 80 to 90 degrees with respect to the adjacent second plane when the pressure application structure is pivoted to said maximum angle to move said each pressure application structure toward the top side of said housing portion.

13. A device according to claim 10 wherein pivotal movement of said pressure application structure about said pivot axis is limited to an angle of about 2 degrees away from a position with the axis of said arcuate peripheral surface parallel to said plane along said guide surface and said arcuate surfaces.

14. A device according to claim 13 wherein said first and second planes on each of said housing portion are at an angle of about 2 degrees with respect to each other, and the arcuate peripheral surfaces of the pressure application structure are each generally cylindrical and disposed at an angle of about 89.5 degrees with respect to the adjacent second plane when the pressure application structure is pivoted to said maximum angle to move said each pressure application structure toward the top side of said housing portion.

15. A device according to claim 10 wherein said pressure application structure includes an axle having opposite ends, a generally cylindrical roller mounted for rotation relative to said axle at each of the opposite ends of said axle to provide said arcuate peripheral surfaces, said axle has a center between said rollers, and said device includes means for mounting the center of the axle on the housing for pivotal motion of the axle about said pivot axis.

16. A device according to claim 10 wherein said pressure application structure includes an axle having an axis and opposite ends, a generally cylindrical roller coaxially fixed on said axle at each of the opposite ends of said axle to provide said arcuate peripheral surfaces, said axle has a center between said rollers, and said device includes means for mounting the center of the axle on the housing for pivotal motion of the axle about said pivot axis and for rotation of said axle and rollers about the axis of said axle and rollers.

17. A device according to claim 10 wherein said tape contact part of the inner surface for each housing portion along a different one of the side surfaces of the roll of tape is defined by ridges extending radially from the axis of said roll of tape, and each

housing portion has a recess from said tape contact part of the inner surface for each housing portion adjacent said core.

5 18. A device according to claim 10 wherein each of said pressure application structures has an end surface projecting in the range of about 0.005 to 0.020 inch or 0.01 to 0.05 centimeter beyond the intersection of the adjacent first and second planes when the pressure application structure is pivoted to said maximum angle to move said each pressure application structure toward the top side of said housing portion.

10 19. A device according to claim 10 wherein said means for journaling the roll of tape between the portions of the housing with said tape contact part of the inner surface for each housing portion along a different one of the side surfaces of the roll of tape journals the tape for free rotation and axial movement relative to the housing.

15 20. A device according to claim 10 wherein said means for journaling the roll of tape between the portions of the housing with said tape contact part of the inner surface for each housing portion along a different one of the side surfaces of the roll of tape journals the tape for free rotation while restricting axial movement of the roll of tape relative to the housing and affording manual axial movement of the roll of tape along said means for
20 journaling.